Ehrhart, Jonathan

From: Guertin, Ted <Ted.Guertin@tetratech.com>
Sent: Tuesday, March 7, 2023 2:10 PM
To: Mohr, Ashley
Cc: Ehrhart, Jonathan; Kaleri, Cynthia; Sparks, Sean; Babcock, Steven
Subject: RE: New Fortress Energy - Air Quality Modeling Request for Information/Clarification
Attachments: NFE LA DWP Meteorological Data Processing Approach_withAttachments_20230303.pdf; NFE LA DWP - Predicted Max Impact Location Plots.pdf

Hi Ashley,
Thanks for your comments on the NFE LA DWP modeling analysis, along with our phone call discussing this these issues. My response is provided below in red. Let me know if you have any questions or want to set up another call to discuss.
Thanks.
Ted

Ted W. Guertin | **Senior Air Quality Meteorologist**
Mobile: 508.361.5573
Ted.Guertin@tetratech.com

Tetra Tech, Inc. | Complex World, Clear Solutions™ | CES
10 Post Office Square, Suite 1100, Boston, MA 02109 | tetratech.com

---

From: Mohr, Ashley <Mohr.Ashley@epa.gov>
Sent: Friday, February 17, 2023 2:37 PM
To: Guertin, Ted <Ted.Guertin@tetratech.com>
Cc: Ehrhart, Jonathan <ehrhart.jonathan@epa.gov>; Kaleri, Cynthia <kaleri.cynthia@epa.gov>
Subject: New Fortress Energy - Air Quality Modeling Request for Information/Clarification

Ted,

Thanks again for taking the time on both January 27th and February 14th to discuss questions related to the air quality analysis submitted in support of the permit application for the proposed New Fortress Energy (NFE) Deepwater Port facility. I have summarized the current requests for more information raised during those discussions. Please let me know if you have any questions while pulling together a response to these items. As discussed, responses to these questions will be included in the permitting record for the proposed facility and will be relied upon in the review of the pending air permit applications.

1. Off-site Inventory Emission Sources for Cumulative Modeling – The modeling report indicates that off-site emissions inventory was obtained from the Bureau of Ocean Energy Management's (BOEM) emissions inventory database. The modeling report also indicates that "major emission sources" were included from that inventory. Please indicate the radius used to pull emissions inventory data and also if any of the sources within the chosen radius were excluded from the modeled off-site emissions inventory. If any off-site sources (i.e., minor emission sources) were excluded from the modeling analysis, please provide justification for the exclusion(s). This justification may include figures showing proximity of the excluded sources to the proposed facility, as well as, a discussion of the magnitude of emissions and source parameters to demonstrate that overlap of impacts from the excluded sources and NFE are not expected.

Response: All offshore emission sources within 50 km of the project as described in the BOEM inventory database were included in the cumulative modeling assessment. Major onshore emission sources (Title V operating permit sources) within 50 km of the project were also included in the cumulative modeling analysis. Minor onshore source were excluded from the cumulative analysis. Minor sources would include those with minor source permits (including synthetic minors, general permits, temporary and or emergency sources). The exclusion of these sources is consistent with the 2017 EPA Guideline on Air Quality Models (Appendix W) guidance for the following reasons.

a. As described in Section 8.3.3.b.iii. of the Guideline, "*The number of nearby sources to be explicitly modeled in the air quality analysis is expected to be few except in unusual situations. In most cases, the few nearby sources will be located within the first 10 to 20 km from the source(s) under consideration."* The vast majority of these minor sources are located well beyond 20 km from the project.
b. The Project's significant impact area (SIA) for all pollutants except 1-hour NO2 are 6.2 km or less, which is well offshore. The SIA for 1-hour NO2 extends 23.7 km, but it is worth noting that impacts for this averaging period can only be affected from one wind direction in an hour and therefore only receptors downwind of both sources can be impacted by both sources. The 1-hr NO_2 standard is a 5-year average that is probabilistic in nature and the probability that the project sources and minor sources would align with the wind direction is low.
c. Since the SIA will not reach the vast majority of the onshore sources, the Project will not have a significant impact in the areas where the minor sources may impact.
d. The ambient background data is conservatively based on data collected in areas more urbanized than the project location and adequately accounts for the minor source emissions.

2. Hypothetical Source for MERPs Analysis/Secondary Impacts – The modeling report indicates that Source 10 – Orleans, Louisiana was chosen as most representative of the proposed NFE facility. Please provide additional information to support the NFE's determination of this hypothetical source at most representative.

Response: The Orleans, Louisiana MERPs source (Source 10) is the closest MERPs source located approximately 112 kilometer (km) to the north of the Project. The next closest MERPs source (Acadia, LA – Source 15) is located approximately 287 km to the northwest of the Project. Both of these MERPs sources are located a similar distance away form the coastal shoreline. None of the MERPs sources listed in the EPA's April 20, 2018 *Guidance on the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and PM2.5 under the PSD Permitting Program"* are located offshore. EPA has more recently developed offshore MERPs for offshore wind energy sources. However, all of the MERPs sources for that study are located off the east coast of the U.S. and none are located in the Gulf coast area. For these reasons, the MERPs source selected (Orleans, LA - Source 10) for estimation of Project secondary pollutant impacts is the most representative.

3. Maximum Impacts Locations – The modeling report states that "all maximum predicted project impact concentrations are all located at overwater locations at or in close proximity to the safety exclusion zone boundary." Please provide a figure showing the maximum predicted project impact concentrations for all modeled pollutants relative to the facility and safety exclusion zone boundary.

Response: As described in the attached predicted concentration plot maps, maximum Project impact concentrations are all located at or near the Project's safety exclusion zone boundary.

4. Meteorological Data for Modeling – Once available, please provide the updated meteorological input data and associated revised modeling based on the discussed revisions to reduce meteorological data substitution and support data integrity/consistency.

Response: The previously proposed met data set for NFE LA DWP AERMOD modeling analysis was made up of data from multiple buoys substituted on an hourly basis. Per discussion with EPA Region 6, Tetra Tech understands that EPA prefers the use of data from one buoy with little to no substitutions from another location, even if the one buoy selected is a buoy located further away from the Project than the originally proposed buoy data. The added distance away from the Project is not a concern, as long as the selected buoy data can be shown to be representative of the atmospheric

environment near the Project. Per EPA recommendations, we have reassessed the available buoy data and are proposing a new dataset based on the EINL1 buoy. A detailed discussion of the revised proposed meteorological dataset, including data recovery and representativeness is provided in the attached PDF document.

As you know, the review of the permit application and associated air quality analysis are on-going efforts. As additional information needs are identified during our reviews, I will reach out to discuss any additional request. Additionally, I am aware that NFE is currently compiling responses to EPA' s December 19, 2022, permit application incompleteness letter. Any changes to emissions/sources characteristics related to the responses will need to be accounted for in the air quality analysis, as necessary.

Response: Tetra Tech will continue to provide information for EPA's additional data needs, as necessary. Please note that the Project's source emissions inventory has recently been updated in response EPA comments on BACT related questions as well as for other Project design updates. The source emissions inventory updates are expected to decrease Project emission levels and improve predicted impact concentrations. The source inventory updates include the following changes:

- The NOx emission rate on the FLNG2 compressor turbine (FLNG2 CT1) has been lowered from 25 to 15 ppm to include SCR. No change to exhaust characteristics and FLNG1 compressor turbine will not include SCR.
- The Solar 70 compressor turbines have been removed from the project (FLNG2 CT2-CT4)
- The NOx emission rate for the flares (both wet and dry) has been lowered from 0.138 to 0.068 lb/MMBtu.
- The fire pump engines (FLNG2 FP1-FP8) have been changed to slightly smaller engines.

After EPA confirms the revised meteorological data approach and other comment responses described above, the air quality impact analysis will be updated for the revised source emission inventory.

Again, if you have any questions or would like to further discuss the requests outlined in this email, please let me know.

Thanks,

Ashley

_____

Ashley N.Q. Mohr
Environmental Scientist
Air Permits Section (ARPE)
U.S. Environmental Protection Agency
1201 Elm Street, Suite 500
Dallas, TX 75270-2102
(214) 665-7289
FAX (214) 665-6762
mohr.ashley@epa.gov